

REMARKS

Claims 19 – 23 and 83 – 96 remain in the application. Claims 21 – 23, 85 – 88, and 93 – 96 were indicated as allowable if rewritten in independent form including all of the limitations of their respective base claims and intervening claims. No amendments are made by this paper.

In the Action, claims 19 – 20, 83 – 84, and 89 – 92 were all rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,746,897 (Karatjas) in view of U.S. Patent No. 3,614,069 (Murry). Issue is taken with that position.

In support of the rejection, the examiner characterized Karatjas as teaching “a multi-generator system including one or more transducers...comprising a generator section having a first generator circuit for producing first ultrasonic drive signals and a second generator circuit for producing second ultrasonic drive signals, the generator having an output unit connecting the drive signals to (the) transducers...” (emphasis added). That characterization is not accurate. Karatjas does teach the generation of three different frequency ultrasonic drive signals, but that reference does not teach or suggest an output unit which connects those different frequency drive signals to the transducers. Instead, Karatjas generates the three different frequency drive signals separately and applies each of those drive signals only to a separate and distinct transducer. This is clearly shown in FIG 4 (and described at column 4, lines 1 – 25) of Karatjas where there are three different transducers, 20, 20’ and 20”, each of which is designed to operate at a different frequency of vibration. The ultrasonic drive signals are selectively generated by use of a ganged switch so that only the drive signal at the vibration frequency of a transducer is applied to that transducer. In no place does Karatjas teach or suggest that more than one of the different frequency drive signals is applied to any of transducers 20, 20’ and 20”.

In contrast, in applicant’s claims 19 and 83, which defines two different frequency range ultrasonic drive signals, either (or both) of those drive signals are connected to the transducers defined in that claim. Thus, it is clear that the transducers in those claims respond to both drive signal frequency ranges to generate ultrasound. Applicant’s claim 89 defines two transducers, each of which is for receiving

ultrasonic drive signals in a first range and a second range, for producing ultrasound throughout both of those ranges.

Murry is similar to Karatjas in that it too discloses transducers which are driven only at a single frequency. This is clear from FIG. 2 of Murry, where a low frequency drive signal generator 37 drives low frequency transducers 36a, 36b, and 41a-f in a low frequency range, and a high frequency drive signal generator 42 drives high frequency transducers 46a, 46b, 47a, 47b, and 47c in a high frequency range. No transducers are driven by both generators 37 and 42. Thus, Murry does not provide the teaching that is deficient in Karatjas.

For these reasons neither Karatjas or Murry, alone or in combination, provide a proper basis for the §103 rejection of independent claims 19, 83 and 89, and claims 20, 84 and 90 -92 dependent thereon. The §103 rejection should be reconsidered and withdrawn.

CONCLUSION

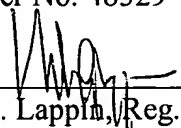
For the above reasons, there is no proper basis for the §103 rejection of claims 19 – 23 and 83 – 96. All claims 19 -23 and 83 -96 are believed to be in condition for allowance. Passage to issue is requested.

A Request for Three-Month Extension of Time is filed concurrently. The Commissioner is hereby authorized to charge any additional fees which may be required or credit any overpayment to Deposit Account No. 50-3431.

Respectfully submitted,

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